

FIG. 1A

SUV39H	1	MAENLKGCSVCCSSWNQLQDLCLRAKLSCPALGISKRNLYDEEVEYLCD	50	CHROMO 39%
Su(var)3-9	1	.....: :   .....EYVVERIEC	50	
	207	.....MGTAKRPPKG.....EYVVERIEC	226	
	51	YKKIREQEYYLVKMGYPGPOSESTWEPRLK	81	
	227	VENDQYQPVFFVKWLGYHDSSENTWESLANVADCAEMKFVERHQQLYETY	276	
	82	CVRILKQFHKDLERELLRRHHRSKTPRHLDPSLANYLQAKORRALRR	130	
	277	IAKITTELEKQLEALPLMENTVAEVDAYEPLNLQIDLILLAQYRAAGSR	326	
	131	WEQE.....LNAKRSHLGR.....IT	146	
	327	SQREPQKIGERALKSMQIKRAQFVRRKQLADLALFEKRMNHVEKPSPPIR	376	
	147	VENEVOLDGPPRAFYVINEYRVGEGITLNQVA.VGCLCQDCLWAPTGCC	195	
	377	VENNIDLDITDSNFMYIHONIIGKDVPKPEAGIVGCTEDTEECTASTK	426	
	196	PGASL.HKFAYNQDQ.VVRLRAGLPYIEVNSFCGYYDQPNRVVQKGR	242	
	427	CCARFAGELFAYERSTRRLRLRPGSAIYEVNSFCGDDSCSNRLVQHGRQ	476	
	243	YDLCLFRTDDGRGWVRLTEKIRKNSVMEYVGEITITSEEAEERRCQIYDR	292	SET 51%
	477	VPLVLFKTANGSGWGVRAATRLKGEVEVCEYIEEITTSDEANERGRAYDD	526	
	293	QGATYLFDLDY.....VEDVYTVDAAYYGNISHFVNHSCDPNLQVYNVEIDN	339	
	527	NGRTYLFDLDYNTAQDSEYITDAANYGNISHFVNHSCDPNLAVEPCWIEH	576	
	340	LDERLPRTAFFATRTIRAGEELTFDYNMQVDPVDMESTRMDSNFGLAGLP	389	
	577	LNVALPHLVFFTLRPIKAGEELSFDY.IRADNEDVPYENLSTA.....	618	
	390	GSPKKRVRIECKCGTESCRKLYF	412	
	619	.....VRVRCRCGRDNCRKVLF	635	

FIG. 2B

REPLACEMENT SHEET

E(z)	SDIAGWGLFL	KEGAQKNEFI	SEYCGEIIISQ	DEADRRGKVM	DK..YMCSFL	50
EZH2	SDVAGWGLFI	KDPVQKNEFI	SEYCGEIIISQ	DEADRRGKVM	DK..YMCSFL	
HRX	SPHGRGLFC	KRNIDAGEMV	IEYAGVWIRS	IQTDKREKYY	DSKGIG.CYM	
trx	SHHGRGLYC	TKDIEAGEMV	IEYAGELIRS	TITDKRERYM	DSRGIG.CYM	
C26	SRIHGWGLYA	MESIAPEDEMI	VEYIGQTIIRS	LVAEEREKAY	ERRGIGSSYL	
YHR	SAIHMGWGLYA	LDSIAAKEMI	IEYVGERTRO	PVAEMREKRY	LKNGIGSSYL	
Su3-9	ANGSGWGVRA	ATALRKGEFV	CEYIEEIIITS	DEANERCKAY	DDNG..RTYL	
SUV39H	DDGRCWGVRT	LEKIRKNSFV	MEYVGEIITS	EBAERRGQIY	DRQG..ATYL	
G9a	TAKHGWGVRA	LQTIPOGTFI	CEYMGELISD	AEAD...V..	.RED..DSYL	
KG-1	TQNKGWGLRC	LDDIAKGSFV	CIYACKILITO	DFADKEGL..	.EMG..DEYF	

E(z)	FNLN.....	NDFVVDATRK	GNKIRFANHS	INPNYAKVM	MVTGDH....	100
EZH2	FNLN.....	NDFVVDATRK	GNKIRFANHS	VNPNYAKVM	MVNGDH....	
HRX	FRID.....	DSEVVDATMH	GNRARFINHS	CEPNYSRVI	NIDGQK....	
trx	FKID.....	DNLVVDATMR	GNAARFINHC	CEPNYSKVV	DILGHK....	
C26	FRID.....	LHHVIDATKR	GNRARFINHS	CDPNYAKVL	TIEGEK....	
YHR	FRVD.....	ENTVIDATKK	GGIARFINHC	CDPNCTAKII	KVGRR....	
Su3-9	FOLDYNTAQD	SEYTIIDANY	GNISHFINHS	CDPNLAVFC	WIEHLNVALP	
SUV39H	FOLDY...VE	DVYTVDAAYY	GNISHFMHS	CDPNLQVYNV	FIDNLERLP	
G9a	FDLKN...DG	EVYCIDARYY	GNISRFINHL	CDPNIIPVRV	FMLHQDLRFP	
KG-1	ANLDHI...ES	VEYIIDAKLE	GNLGRYLNHS	CSPNLFVQNV	FVDTHDLRFP	

E(z)	RIGIFAKRAI	QPGEEELFFDY	..RYGPTQL K....	FVGI	EREMEIV*	150
EZH2	RIGIFAKRAI	QTGEEELFFDY	..RYSQADAL K....	YVGI	EREMEIP*	
HRX	HIVIFAMRKI	YRGEELTYDY	..KFPIE.DA	SNKLPCNCSA	KKCRKFLN*	
trx	HIIIFAVRRI	VGEEELTYDY	..KFPIE.D.	EKIPCSCGS	KRCRKYLN*	
C26	RIVIVSRTII	KKGEEITYDY	..KFPIE...	ODKIDCLCSA	KTCRGYLN*	
YHR	RIVIIYALFOI	AASEELTYDY	..KFEREKDD	EERLPCLCSA	PNCKGFLN*	
Su3-9	HUVFFTLRPI	KAGEELSFYD	..IRADNEDVP	YENLSTA....	.....	
SUV39H	RIIAFFATRTI	RAGEELTFDY	NMQVDPVME	STRMDSNFGL	AGLPGSPKKR	
G9a	RIIAFFSSROT	RTGEEELGFYD	GDRFW..DIK	SKYFTCCCS	EKKKHSAEAI	
KG-1	WIAFFASKRI	RAGTELTYDY	NYEVG...SVE	GKELLCCCSA	IECR.....	

E(z)	
EZH2	
HRX	
trx	
C26	
YHR	
Su3-9	VRVECRGCRD NCRKVL*
SUV39H	VRIECKCGTE SCRKYLF*
G9a	ALEQSLARL DHPPELLPEL GSLPPVNT*
KG-1	....GRLL*

FIG.5

FIG. 6A

1141	GAGGCCGCAGAAAGGACCGCTTCCCAATAACAGTAGCAGGCCAGCACCCACCATT G R R R G R L P N N S S R P S T P T I N	1200
1201	ATGTGCTGGAAATCAAAGGATACAGACAGTGATAGGGAAGCAGGACTGAAACGGGGGAG V L E S K D T D S D R E A G T E T G G E	1260
1261	AGAACATGATAAAGAAGAAGAAGAAGAAGATGAAACTTCGAGCTCCTCTGAAGCAA N N D K E E E E K K D E T S S S S E A N	1320
1321	ATTCTCGGTGTCAAACACCAATAAAGATGAAGCCAAATATTGAACCTCCTGAGAAATGTGG S R C Q T P I K M K P N I E P P E N V E	1380
1381	AGTGGAGTGGTGCTGAAGCCTCAATGTTTAGAGTCCTCATTTGGCACTTACTATGACAAAT W S G A E A S M F R V L I G T Y Y D N F	1440
1441	TCTGTGCCATTGCTAGGTTAATGGGACCAAAACATGTAGACAGGTGTAAGAGTTTAGAG C A I A R L I G T K T C R Q V Y E F R V	1500
1501	TCAAAGAATCTAGCATCATAGCTCCAGCTCCCGCTGAGGATGTGGATACCTCTCAAGGA K E S S I I A P A P A E D V D T P P R K	1560
1561	AAAAGAAGAGGAAACACCGGTTGTGGCTGCACACTGCAGAAAGATACAAGCTGAAAAAGG K K R K H R L W A A H C R K I Q L K K D	1620
1621	ACGGCTCCTCTAACCATGTTTACAACATCAACCCCTGTGATCATCCAGCGCAGCCTTGTG G S N H V Y N Y Q P C D H P R Q P C D	1680
1681	ACAGTTCGTGCCCTTGTGTGATAGCACAAAAATTTTGTGAAAAGTTTGTCAATGTAGTT S S C P C V I A Q N F C E K F C Q C S S	1740
1741	CAGAGTGTCAAACCGCTTTCGGGATGCCGCTGCAAAGCACAGTGCAACACCAAGCAGT E C Q N R F P G C R C K A Q C N T K Q C	1800
1801	GCCCGTGCTACCTGGCTGTCCGAGAGTGTGACCTTGACCTCTGCTTACTTGTGGAGCCG P C Y L A V R E C D P D L C L T C G A A	1860
1861	CTGACCATTGGGACAGTAAAAATGTGCTTGCAGAACTGCAGTATTCAGCGGGCTCCA D H W D S K N V S C K N C S I Q R G S K	1920
1921	AAAAGCATCTATTGCTGGCACCATCTGACGTGGCAGGCTGGGGGATTTTATCAAGATC K H L L L A P S D V A G W G I F I K D P	1980
1981	CTGTGCAGAAAAATGAATTCTATCTCAGAACTACTGTGGAGAGATTATTTCTCAAGATGAAG V Q K N E F I S E Y C G E I I S Q D E A	2040
2041	CTGACAGAAAGGAAAGTGATGATAAAATACATGTGCAGCTTTCTGTTCAACTTGAACA D R R G K V Y D K Y M C S F L F N L N N	2100
2101	ATGATTTTGTGGTGGATGCAACCCGCAAGGTAACAAAAATTCGTTTTCGAAATCATTCGG D F V V D A T R K G N K I R F A N H S V	2160
2161	TAAATCCAACCTGCTATGCAAAAGTTATGATGGTTAACGGTGATCACAGATAGGTATTT N P N C Y A K V M M V N G D H R I G I F	2220
2221	TTGCCAAGAGGCCATCCAGACTGGCGAAGAGCTGTTTTTTGATTACAGATACAGCCAGG A K R A I Q T G E E L F F D Y R Y S Q A	2280

FIG. 6B

SUV39H length: 2732bp (coding: 45-1284)

1	TCGCGAGGCGCGGTAGGCCCGAATGTCGTTAGCCGTGGGGAAGATGGCGGAAATTTAA	60
	M A E N L K	
61	AAGCGTGCAGCGTGTGTGCAAGTCTTCTTGAATCAGCTGCAGGACCTGTGCCGCTGG	120
	G C S V C C K S S W N Q L Q D L C R L A	
121	CCAAGCTCTCCTGCCCTGCCCTCGGTATCTCTAAGAGGAACCTCTATGACTTTGAAGTCG	180
	K L S C P A L G I S K R N L Y D F E V E	
181	AGTACCTGTGCGATTACAAGAAGATCCGCGAACAGGAATATTACCTGCTGAATGCGCGTG	240
	Y L C D Y K K I R E Q E Y Y L V K W R G	
241	GATATCCAGACTCAGAGAGCACCTGGGAGCCACGGCAGAATCTCAAGTGTGCGTATCC	300
	Y P D S E S T W E P R Q N L K C V R I L	
301	TCAAGCAGTTCACAAAGGACTTAGAAAGGGAGCTGCTCCGGCGGCACCAACGGTCAAAGA	360
	K Q F H K D L E R E L L R R H H R S K T	
361	CCCCCGGCACCTGGACCCAAGCTTGGCCAACCTACCTGGTGCAGAAGGCCAAGCAGAGGC	420
	P R H L D P S L A N Y L V Q K A K Q R R	
421	GGGCGCTCCGTGCGTGGGAGCAGGAGCTCAATGCCAAGCGCAGCCATCTGGGAGCGCATCA	480
	A L R R W E Q E L N A K R S H L G R I T	
481	CTGTAGAGAAATGAGGTGGACCTGGACGGCCCTCCGCGGCCCTTCGTGTACATCAATGAGT	540
	V E N E V D L D G P P R A F V Y I N E Y	
541	ACCGTGTGTGGTGAGGGCATCACCTCAACCAAGGTGGCTGTGGGCTGCGAGTGCCAGGACT	600
	R V G E G I T L N Q V A V G C E C Q D C	
601	GTCTGTGGGACCCACTGGAGGCTGCTGCCCGGGCGGCTACTGCACAAGTTTGCTTACA	660
	L W A P T T G G C C P G A S L H K F A Y N	
661	ATGACCAGGGCCAGGTGGCGCTTCGAGCGGGCTGCCCATCTACGAGTGCAACTCCCGCT	720
	D Q G Q V R L R A G L P I Y E C N S R C	
721	GCGCTGCGGCTATGACTGCCAAATCGTGTGGTACAGAAAGGTATCCGATATGACCTCT	780
	R C G Y D C P N R V V Q K G I R Y D L C	
781	GCATCTTCCGACCGATGATGGGCGTGGCTGGGGCGTCCGACCCCTGGAGAAGATTCGCA	840
	I F R T D D G R G W G V R T L E K I R K	
841	AGAACAGCTTCGTATGAGTACGTGGGAGAGATCATTACCTCAGAGGAGGCAGAGCGGC	900
	N S F V M E Y V G E I I T S E E A E R R	
901	GGGGCCAGATCTACGACCGTACAGGGCCACCTACCTCTTTGACCTGGACTACGTGGAGG	960
	G Q I Y D R Q G A T Y L F D L D Y V E D	
961	ACGTGTACACCGTGGATGCCCGCTACTATGGCAACATCTCCCACTTTGTCAACCACAGTT	1020
	V Y T V D A A Y Y G N I S H F V N H S C	
1021	GTGACCCCAACCTGCAGGTGTACAACGCTCTCATAGACAACCTTGACGAGCGGCTGCCCC	1080
	D P N L Q V Y N V F I D N L D E R L P R	
1081	GCATCGCTTCTTTGCCACAAGAACCATCCGGGCAGGCGAGGAGCTACCTTTTGATTACA	1140
	I A F F A T R T I R A G E E L T F D Y N	

FIG. 7A